**WHAT IS CLAIMED IS**

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        1. A method of allocating radio resources, in a base station, to the base station and a mobile station, comprising the steps of:

        obtaining a ratio between traffic of

10 uplink for transmission from the mobile station to the base station and traffic of downlink for transmission from the base station to the mobile station such that the ratio reflects empirical data; and

15         allocating the radio resources to the uplink and the downlink according to the obtained ratio.

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        2. The method as claimed in claim 1, further comprising a step of dividing time into a plurality of time periods, wherein said step of

25 obtaining a ratio obtains the ratio with respect to each one of the time periods by deriving the ratio from traffic of the uplink of a corresponding time period and traffic of the downlink of the corresponding time period.

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3. The method as claimed in claim 2,
wherein said step of obtaining a ratio obtains the
ratio by averaging a ratio between traffic of the
uplink and traffic of the downlink over a first
5   predetermined period with respect to each one of the
time periods.


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4. The method as claimed in claim 2,
further comprising the steps of:
obtaining an instantaneous ratio between
traffic of the uplink and traffic of the downlink
15  for a second predetermined period immediately
preceding a present instant where the second
predetermined period is shorter than the first
predetermined period; and
obtaining a weighted average of the ratio
20  averaged over the first predetermined period and the
instantaneous ratio by weighting the ratios with
respective weighting factors, wherein said step of
allocating the radio resources allocates the radio
resources to the uplink and the downlink according
25  to the weighted average.


30  5. The method as claimed in claim 1,
further comprising a step of transmitting, to the
mobile station, information about the radio
resources with respect to at least one of the uplink

and the downlink.

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6. The method as claimed in claim 1, further comprising a step of allocating transmission power according to communication quality required for the uplink and the downlink.

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7. A base station apparatus which
15 communicates with a mobile station apparatus, comprising:
a computation unit which obtains a ratio between traffic of uplink for transmission from the mobile station to the base station and traffic of
20 downlink for transmission from the base station to the mobile station such that the ratio reflects empirical data; and
an allocation unit which allocates the radio resources to the uplink and the downlink
25 according to the obtained ratio.

30 8. The base station apparatus as claimed in claim 7, wherein time is divided into a plurality of time periods, and said computation unit obtains the ratio with respect to each one of the time

periods by deriving the ratio from traffic of the uplink of a corresponding time period and traffic of the downlink of the corresponding time period.

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9. The method as claimed in claim 8, wherein said computation unit further obtains the ratio by averaging a ratio between traffic of the uplink and traffic of the downlink over a first predetermined period with respect to each one of the time periods.

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10. The method as claimed in claim 8, wherein said computation unit further obtains an instantaneous ratio between traffic of the uplink and traffic of the downlink for a second predetermined period immediately preceding a present instant where the second predetermined period is shorter than the first predetermined period, and obtains a weighted average of the ratio averaged over the first predetermined period and the instantaneous ratio by weighting the ratios with respective weighting factors, and wherein said allocation unit allocates the radio resources to the uplink and the downlink according to the weighted average.

11. The method as claimed in claim 7, further comprising a reporting control unit which transmits, to the mobile station, information about the radio resources with respect to at least one of the uplink and the downlink.

12. The method as claimed in claim 7, wherein the allocation unit allocates transmission power according to communication quality required for the uplink and the downlink.